

Remarks

The FR at Page 16, lines 5-6, states, “Applicant’s analysis of the scope and content of Newman et al. is incomplete.” In response, Applicant’s discussion to follow will complete the previous discussion concerning the reference Newman et al.

As reiterated by the Supreme Court in *KSR*, the framework for the objective analysis for determining obviousness under 35 U.S.C. 103 is stated in *Graham v. John Deere Co.* 383 U.S. 1, 148 U.S.P.Q. 459 (1966). Obviousness is a question of law based on underlying factual inquiries. The factual inquiries enunciated by the Court are as follows:

- (1.) Determining the scope and content of the prior art;
- (2) Ascertaining the differences between the claimed invention and the prior art; and
- (3) Resolving the level of ordinary skill in the pertinent art.

Applicant will now discuss the *Graham* factual inquiries.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Newman et al.

Col. 9, lines 28-61 of Newman et al. describes a process of making a cement board, which uses a slurry 76, a slurry 93 and a slurry 91, as shown in Fig. 6. The slurry 93 is disclosed as optional at col. 9, lines 35-46. In the process disclosed at col. 9, lines 28-61, the slurry 91 is not disclosed as optional.

However, the Final Rejection (FR) emphasizes that the slurry 91 is optional. And the FR states at p. 4, lines 7-14. “However, a fair reading of the entirety [sic] of Newman et al. reveals that cementitious slurry 76 may be used without slurries 93 and 91. Attention is directed to Newman et al.’s use of the term ‘optionally’ (both occurrences) at col. 3 lines 45-53 [describing a “second slurry”... “optionally deposited” and an “additional slurry” ... “optionally applied”]. Attention is also directed to the description of [the term] ‘the cementitious slurry 76 or slurries’ at col. 9, line 40.”

According to the FR at p. 4, lines 7-14, a description in Newman et al., at col. 3 lines 45-53, of a “second cementitious slurry”... “optionally deposited” can mean “slurry 93” taken from col. 9, line 40, and a description of an “additional cementitious slurry of low viscosity” ... “optionally” applied, can mean “slurry 91” taken from col. 9, line 40. And the term “the cementitious slurry 76 or slurries,” refers to “the cementitious slurry 76 or slurries [93 and 91],” (herein, the disputed term). Further, according to the FR at p. 4, line 4, the disputed term “the cementitious slurry 76 or slurries [93 and 91]” would mean “cementitious slurry 76 may be used without slurries 93 and 91.” However, the disputed term, “the cementitious slurry 76 or slurries [93 and 91],” can not be interpreted to mean “cementitious slurry 76 may be used without the slurries [93 and 91],” unless the word “or” in the disputed term is replaced by the phrase “may be used without.” Such a replacement phrase, “may be used without” is not encompassed by the reference, and is not encompassed by the plain meaning of the word “or.” The plain meaning of the word “or” is to connect words, phrases or clauses representing alternatives. The word “or” is used to connect alternative terms for the same thing. *Random House Webster's Unabridged Dictionary, Second Edition*, 2001, P. 3160.

Accordingly, when the word “or” is given its plain meaning in the disputed term, “the cementitious slurry 76 or slurries [93 and 91],” such a meaning of the word “or” would make the disputed term to mean, the slurries [93 and 91] may be used as an alternative to using the slurry 76. But the process disclosed at col. 9, lines 28-61 would not work if the slurries 93 and 91 may be used as an alternative to using slurry 76, since the process requires the use of slurry 76 to make the process work. The disputed term can not be interpreted in a manner that the process would not work. Accordingly, the disputed term, “the cementitious slurry 76 or slurries” can not refer to slurries [93 and 91], as proffered by the rejection.

Moreover, it is the slurries 76 and 93, which may be used together, according to the text, col. 9, lines 28-46 of Newman et al. More specifically, the text, col. 9, lines 28-46, states at line 32, “The glass fiber facing sheet 10 is then applied to the cementitious slurry 76 (and optionally cementitious slurry 93),” which means the slurries 76 and 93 may be used together. Accordingly, the slurries [76 and 93] may be used together in the disputed term, “the cementitious slurry 76 or

slurries, ” to mean, “the cementitious slurry 76 or slurries [76 and 93].” Further, such a meaning makes sense when read in context with the text that is contiguous with the disputed term, i.e., with the text, col. 9, lines 28-46. The meaning intended by the disputed term at line 40 is more reasonable and consistent with the meaning of its contiguous text, col. 9, lines 28-46, than with the distant, col. 3, lines 45-53 that does not identify the slurries with reference numerals.

Accordingly, Applicant has proffered a meaning for the disputed term that makes sense in context with contiguous text, which should be adopted instead of the meaning proffered by the FR. The meaning proffered by the FR would not give the word “or” its plain meaning in the disputed term, and would not work in the process described at col. 9, lines 28-61.

The FR states, at P, 4, lines 19-20, “The foundation for Applicant’s arguments in the response filed 8-14-07, 9-4-07 and 11-5-07 is that Newman et al. must use slurry 91.” However, Applicant’s discussion is not based on such a foundation. Instead, the FR rejection correctly states that the slurry 91 is optional, when slurry 91 is compared to column 3, lines 45-53 of the reference. Nevertheless, said col. 3, lines 45-53 of Newman et al. reveals no description of a cement skin. And col. 9, lines 28-61 describe a process of making a cement board revealing no description of making a cement skin. Thus, there is no description anywhere in the reference of a cement skin feature by using the slurry 76 without the slurry 91.

Moreover, slurry 91 is not present in Applicant’s discussion in the response filed December 27, 2007, Page 16, in which was stated, “However, the specification of Newman et al. contains no description that the slurry 76 forms a cement skin. By contrast, the Newman et al. specification (column 2, lines 13-14) states, “glass fiber facing sheet provides a smooth surface which is essentially free of pitting.” And claim 27 of Newman et al recites, “The cement board according to claim 22 wherein the melt blown polymer web provides a substantially smooth exterior surface to said cement board.” No cement skin is claimed, and no cement covering the melt blown polymer web is claimed. Moreover, if a cement skin were present, the claims would not be able to claim that the glass fiber facing sheet provides a smooth surface, and would not be able to claim the melt blown polymer web provides a substantially smooth exterior surface to said cement board.

P. 4, lines 7-9 of the FR further describes Newman et al. by stating, “When slurry 91 is not used, the cementitious slurry 76 is forced up through the mesh openings of the facing sheet and must extend at least partially through the melt blown web.” However, the underlined portion is not encompassed by what Newman et al. expressly states, at col. 9, lines 44-49, “[T]he cementitious slurry 76 is forced up through the mesh openings of the glass fiber facing sheet 10. The force of gravity then causes the cementitious slurry 76 to sink back down away from the glass fiber facing sheet 10 and form menisci within the mesh openings.”

Further, the reference continues where left off at line 49, “Nevertheless the melt blown polymer web 20 prevents the cementitious slurry 76 from sinking into the large mesh openings 40 of the facing sheet 10. Instead, the melt blown fiber web 20 maintains a portion of the cementitious slurry 76 on the surface of the glass fiber facing sheet 10 and causes the slurry to window pane the mesh openings 40 of the glass scrim 15 thereby forming a substantially planar bridge surface between the transverse and longitudinal yarns, 25 and 30.” This passage of text can not encompass a meaning that the slurry 76 must extend at least partially through the melt blown web as opined in the FR. The meaning of this passage of text is further explained by the reference at col. 2, lines 43-49; “Because the melt blown web [20] is typically thin and is normally applied to only one face of the glass scrim [15], the opposed face of the scrim [15] provides an exposed three-dimensional grid profile surface which remains available to interact mechanically with hardenable liquids such as the cementitious slurry [76] used in the cement board.” Accordingly, the reference discloses no suggestion for the slurry 76 to extend through the melt blown web in order for the “the opposed face of the scrim... to interact mechanically with... the cementitious slurry.”

Further, the FR rejection states, “the low viscosity slurry generally passes through the facing sheet 10,” as stated by the FR p. 3, line 4, which is not accurate compared to what Newman et al. expressly states at col. 9, lines 32-35, “The low viscosity slurry 91 will generally pass through the glass fiber facing sheet 10,” wherein only the slurry 91 is being described. But the FR, at p. 2, penultimate line, points out that Newman et al. discloses “a first low viscosity cementitious slurry 76.” However, “a first low viscosity cementitious slurry 76” is not

encompassed by col. 6, lines 13-14 of Newman et al. that expressly describes “a first cementitious slurry 76,” and no description is present to describe it with a low viscosity.

Further, the optional slurry 93 is described, col. 9, lines 25-27 of Newman et al., as having a higher viscosity than slurry 76, which discloses a relative viscosity parameter, and which parameter does not disclose, or even need, the slurry 76 to be necessarily or inherently a low viscosity slurry. The parameter only requires the slurry 93 to have a higher relative viscosity.

Accordingly, there is no factual basis in Newman et al. that the slurry 76 is a “first low viscosity slurry,” as stated by the FR.

Further, there is no factual basis that the slurry 76 can be the “low viscosity slurry 91 [that] will generally pass through the facing sheet 10,” being described by the FR p. 3, line 4. The FR states, p. 4, lines 12-14, “If the slurry 76 remains below the melt blown web and the slurry 91 is not used then the melt blown web can not prevent the slurry 76 from sinking back down.” However, the slurry 91 is in fact used in the process, and is applied on top of the melt blown web to be in the way of the slurry 76 trying to penetrate the melt blown web from below. Moreover, the reference discloses, at col. 9, lines 32-35, “the low viscosity slurry 91 will generally pass through the glass fiber facing sheet 10.” It is emphasized that even with the slurry 91 in the way, and passing through the facing sheet 10, yet the reference further discloses, at col. 9, lines 49-57, and col. 2, lines 43-49, expressly how the melt blown web prevents the slurry 76 from sinking back down. Therefore, the melt blown web prevents the slurry 76 from sinking back down when the slurry 91 is present on the facing sheet 10, and would prevent the slurry 76 from sinking back down the same way when the slurry 91 is not used.

No suggestion is in the reference of a different way for the melt blown web to prevent the slurry 76 from sinking back down. Moreover there is no express disclosure in the reference that the slurry 76 makes a cement skin. The FR, P. 4, lines 7-14 provides that a certain thing may result, i.e. the slurry 76 may make a cement skin, from a given set of circumstances, i.e. when the slurry 91 is not used. However, the FR is representative of the proposition: “The mere fact that a certain thing may result from a given set of circumstances is not sufficient,” as set forth by

MPEP 2112 IV. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.' Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." Quoted from MPEP 2112 IV. that cites, *In re Robertson*, 169 F.3d, 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

With regard to Fig. 8 of Newman et al., discrepancies depicted in Fig. 8 have been discussed in the Response filed December 27, 2007, Pp. 11-12. Applicant proffers that such discrepancies should be used to limit the scope of the prior art to which Newman et al. belongs, and should not be used in hindsight reconstruction, by using the discrepancies to reach the claimed invention. "We are mindful that in KSR, the Supreme Court made clear that a finding of teaching, suggestion, or motivation to combine is not a 'rigid rule that limits the obviousness inquiry.' 127 S. Ct. at 1741. ... We must still be careful not to allow hindsight reconstruction of references to reach the claimed invention without any explanation as to how or why the references would be combined to produce the claimed invention." *Innogenetics, N.V. v. Abbott Laboratories*, 2008 U.S. App. LEXIS 976 at *976 (slip opinion P. 10, Fed. Cir. January 17, 2008).

Further, with regard to Fig. 8, the FR at pages 13-14 points out that the reference fails to illustrate and describe certain things according to such a specific manner. For example, "Moreover, Figure 8 fails to illustrate and the specification fails to describe the melt blown web 20 'floating' on the surface of the cement slurry." And further, for example, "[T]he examiner notes that the expression facing sheet fails to require exposed uncoated fibers at the surface." And further, for example, "The formation of a cement skin is consistent with the absence of description in Newman et al. of the criticality of the individual fibers of the melt blown web to remain uncoated by cementitious slurry." However, Applicant proffers that the FR has made a created disclosure that by its nature is missing from the reference, which should not be permitted to be used in interpreting the prior art.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Mathieu.

See the Response filed December 27, 2007.

The FR discusses the contents of Mathieu at p. 6, lines 28 and p. 7, lines 3-6 and p. 15, lines 2-8. However, the discussion is not as accurate compared to Applicant's Response filed December 27, 2007 that is believed to be a more accurate description of the contents of Mathieu.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Galer.

See the Response filed December 27, 2007.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Canada.

See the Response filed December 27, 2007.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Murphy et al.

See the Response filed December 27, 2007. Further, it is clear that Murphy discloses two outer layers 146 and 147 of iron slag aggregate positioned on either side of the reinforcing material layers, scrims 46, and a different layer of cement identified by the different number 140 to distinguish from the outer layers 146 and 147.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Palmer.

See the Response filed December 27, 2007.

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Cooper.

See the Response filed December 27, 2007

Graham v. John Deere factual inquiry (1.) Determining the scope and content of the prior art, Schupack.

See the Response filed December 27, 2007

Graham v. John Deere factual inquiry (2) Ascertaining the differences between the claimed invention and the prior art.

As reiterated from Applicant's Response filed December 27, 2007, Applicant's claim 17 recites:

promoting penetration through the thin, porous nonwoven web by a portion of the layer of hydraulic cementitious material to form the cement skin adjacent to the outer face by having the thin, porous nonwoven web comprise alkali resistant polymer fibers coated with a hydrophilic material. (Interpreted by use of the specification, paragraphs [0032], [0035], [0037] and [0039] U.S. Published Application No. 2004/0084127 A1.)

Graham v. John Deere factual inquiry(3) Resolving the level of ordinary skill in the pertinent art.

The method disclosed at col. 9, lines 28-61, and shown in Fig. 6, of Newman et al. does not make a cement skin. The method disclosed by Newman et al. at col. 4, lines 43-56 is even more brief. The secondary references do not supply the deficiencies of Newman et al., as discussed in the Response filed December 27, 2007.

Further, there is no express disclosure that any slurry 76, 93 or 91 forms a cement skin. But the reference, Newman et al., could be interpreted in two ways: (1.) that the entire slurry 91 can pass through the glass fiber facing sheet 10 and not form a cement skin, or, alternatively, (2.) that some of the slurry 91 might not pass through and might form a cement skin on top of sheet

10, but only as a possibility or probability. "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." Quoted from MPEP 2112 IV. that cites, *In re Robertson*, 169 F.3d, 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Accordingly, the scope and content of Newman et al. can not be interpreted to disclose a cement skin except as a probability or possibility.

Further, the FR at p. 8, lines 11-15 and p. 7, lines 1-3 and p. 10, lines 4-7 discusses how a mesh of Mathieu provides motivation to a person skilled in the art to embed the facing sheet 10 of Newman et al. to create a cement skin. Further, the FR, p. 7, lines 10-12, contains a statement, "With respect to forming a cement skin, the applied prior art satisfies the TSM test approved by the Supreme Court (referring to Mathieu and Galer)." However, evidence of motivation must be directed to a motivation to adopt the way a prior art disclosure makes a cement skin and to combine that with or to modify the main or basic reference. A motivation to form a cement skin supplied by Mathieu can not be used to interpret Newman et al. by providing a cement skin that is deemed consistent with the Newman et al. disclosure. For example, the FR uses Mathieu to interpret Newman et al, as disclosing a "SMOOTH cement board" (FR p. 2, 3rd line from the end) as being consistent with a cement skin, or to prove, "The use of a single slurry 76 is consistent with the formation of a smooth cement board having a cement skin adjacent to an outer face" (FR p. 5, lines 12-13).

Moreover, a mesh of Mathieu can not motivate one to use a prior art mesh to combine with or modify Newman et al. Newman et al. already describes a mesh as prior art to be improved upon by the patented invention of Newman et al. See col. 1, line 54 to col. 2, line 7. It would not be reasonable for a mesh of Mathieu to provide motivation to combine with or modify Newman et al., when Newman et al. itself regards a mesh as prior art to be improved upon by the patented invention of Newman et al. Further, the "individual" mesh described by Mathieu as having openings "sufficiently large to pass the mesh bonding material," (col. 6, lines 43-47) does not involve the kind of reinforcement fabric of Applicant's claims to make a cement skin, and thereby a mere mesh of Mathieu is not encompassed by Applicant's claims.

Further, the FR at p. 6, line 15 and p.10, line 4 discusses how Galer provides motivation to a person skilled in the art to embed the facing sheet 10 of Newman et al. and create a cement skin. Further, the FR, p. 7, lines 10-12, contains a statement, "With respect to forming a cement skin, the applied prior art satisfies the TSM test approved by the Supreme Court." However, evidence of motivation must be directed to a motivation to adopt something in prior art disclosures for making a cement skin. The motivation to form a cement skin, when supplied by Galer, can not be used to interpret Newman et al. for teaching of a "SMOOTH cement board" (FR p. 2, 3rd line from the end) as being consistent with a cement skin, or to prove, "The use of a single slurry 76 is consistent with the formation of a smooth cement board having a cement skin adjacent to an outer face" (FR p. 5, lines 12-13). Moreover, the only prior art cement skin process that could be the object of motivation by Galer to combine with or modify the main reference, is the one disclosed by Galer. No other secondary reference discloses a prior art cement skin process. And Applicant's method claims distinguish over the prior art skin process of Galer that uses a riser of a step to produce a cement skin. The rejected claims do not adopt the prior art way in which Galer makes a cement skin that uses a riser of a step to produce a cement skin.

Further, the FR, at p. 10, lines 13-15, contains a statement, "With respect to the hydrophilic coating [with reference to Murphy and Palmer], the applied prior art satisfies the TSM test approved by the Supreme Court." The FR, at page 10, lines 8-13 discusses that Canada, Murphy and Palmer suggest/motivate one skilled to apply a hydrophilic coating on the mesh 15 and non-woven web 20, and (included in the suggestion/motivation) to embed the mesh 15 and non-woven web 20 of Newman et al. to become spaced from the board surface by a cement skin. However, Canada, Murphy and Palmer do not contain sufficient disclosure to propose that the mesh 14 and non-woven web 20 would form a cement skin. Moreover, such a proposal is representative of the proposition: "The mere fact that a certain thing may result from a given set of circumstances is not sufficient," as set forth by MPEP 2112 IV. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" Inherency, however, may not be established by probabilities or possibilities. The mere fact

that a certain thing may result from a given set of circumstances is not sufficient." Quoted from MPEP 2112 IV. that cites, *In re Robertson*, 169 F.3d, 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

The FR states, at page 15, line 16-17, "With respect to Applicant's arguments, the preponderance of evidence (Canada, Murphy et al and Palmer) provides ample support for the finding of fact that one of ordinary skill in the art has the knowledge...". In response, a preponderance of evidence compared to Applicant's arguments is determinable by adjudication on appeal, and further does not constitute an underlying factual analysis enunciated by the Court for resolving the level of ordinary skill in the pertinent art.

Applicant has provided an analysis organized according to underlying factual enquires of the kind enunciated by the Court in *Graham v. John Deere Co.*. See the response filed December 27, 2007, Pp. 10-18 and supplemented by the present response to the FR. Accordingly it is requested that Applicant's analysis of the factual enquires enunciated by the Court in *Graham v. John Deere Co.* be adopted as containing adequate factual basis for reversing the Final Rejection.

Subsequent to Applicant's discussion of the slurry 91 in the Response filed December 27, 2007, the FR further discusses the slurry 91 at some length. It is reasonable and consistent with the discussion of the slurry 91 in the FR to conclude that the slurry 91 is relied upon in making the Final Rejection. Applicant is in compliance with the patent rules by responding to each of the reasons for making a rejection. Moreover, Applicant has discussed a detailed analysis based on the factual enquires enunciated by the Court in *Graham v. John Deere Co.* Accordingly it is requested that Applicant's analysis that is organized according to the factual enquires enunciated by the Court in *Graham v. John Deere Co.* be adopted as containing adequate factual basis for reversing the Final Rejection.

Summary

Reconsideration of the Final Rejection (FR) is requested in view of the above discussion.

Respectfully submitted,

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